Space Weather Forecast

Issued on Thursday 13 March 2025 at 13:23 Local

This forecast provides a four-day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

---

Space Weather Forecast Headline: Isolated Moderate class flares likely. Chance of G1 Minor Storms day 4 (13 Mar)

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Low with only common class flares observed. This is despite the ten regions currently on the Earth-facing disc, including two with mixed magnetic polarity spots, and some increased potential for flaring due to this. The most notable of these is in the north-centre disc, with the second in the southeast. The other region of note the region still moving onto the Earth-facing disc from over the southeast limb.

No Earth-directed CMEs (coronal mass ejections) have been observed.

Solar Wind / Geomagnetic Activity: Solar winds showed a connection to the fast solar winds from a coronal hole. Wind speeds were initially background, around 400 km/s but soon rising to elevated by 12/1500 UTC, then persisted 490-550 km/s. Interplanetary Magnetic Field strength, eased from Moderate values to be Weak. The north-south component also eased from mainly Moderate southward to be Weak southward. Geomagnetic activity was Active (Kp4) to G1/Minor Storm (Kp5).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) was at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Low to Moderate activity is likely, with isolated Moderate class flares and a slight chance of Strong flares.

Solar Wind / Geomagnetic Activity: There are no Earth-directed CMEs. Ongoing fast solar wind, currently near 550km/s, is expected to ease a little day 2-3 (14-15 Mar), before a further enhancement is likely day 4 (16 Mar) Geomagnetic activity is expected to become mainly Quiet to Unsettled with isolated Active intervals and a slight chance of G1 Minor Storms by day 2 (14 Mar). Any upcoming enhancement day 4 (16 Mar) brings a chance of a further spell of Active to G1 Minor Storm intervals.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to be at background with no solar radiation storms occurring

---

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 370 900 0100 Email: enquiries@metoffice.gov.uk

© Crown Copyright 2025. All Rights Reserved.

Geomagnetic Storms

Geomagnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	Yes	60	10	5	50
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X-Ray Flares

X-Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 (M Class)	No	60	60	60	60
Very Active	R3-R5 (X Class)	No	10	10	10	10

Solar Radiation Storms (High Energy Protons)

Radiation Storms Probability (Exceedance)	Level ($cm^{-2}sr^{-1}s^{-1}$)	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	10	10	10	10
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and/or 50 MeV ≥ 10pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 370 900 0100 Email: enquiries@metoffice.gov.uk

© Crown Copyright 2025. All Rights Reserved.